Portland Harbor Remedial Investigation Comment Tables due March 5

Below are two tables to use for recording your comments on the Portland Harbor Remedial Investigation (RI) report.

- ***Table 1, Comments on Specific Sections or Discussions***, is for specific changes or clarifications to specific elements of the RI – sections, figures, maps, or tables – needed to make these elements correct, consistent, and/or technically appropriate for inclusion in the final RI.
- ***Table 2, General Comments***, is for you to record general questions or issues that concern multiple sections or the report as a whole.

Please follow the instructions given with each table to make the review and finalization of your comments as efficient as possible.

When you have recorded your comments, please return this entire document file to Section Leads. Copy Chip and Eric.

Thanks in advance for your cooperation on this large, complex task.

Please enter your name, initials, and organization below:

Name: Jessica Winter

Initials: JW

Organization: NOAA

Completing Table 1

Please follow these guidelines to help ensure the quick, efficient review and resolution of your comments.

- Unless a comment is *very long*, please use the tables provided to record the comment.
- For *very long* comments (e.g., more than 1 page), you can put the comment in a separate Word file (but be sure to fill out the other table cells). Give this file a short, appropriate filename (e.g., *JK_Tissue_1.doc*), and in the **Comment to LWG** table cell, just say "See JK_Tissue_1.doc." Submit this separate file along with these comment tables.
- Please fill in *all* table cells (Rationale is optional) so we can locate your area of concern quickly and accurately. In particular:
  - **Subsection:** Enter the *lowest level heading* of the discussion that your comment applies to (e.g., "4.17.3.9"). If your comment concerns a figure, map, or table, enter the appropriate ID in this column; e.g., "Table 4-32".
  - **Comment to LWG:** Please make a *direct request for a specific action by LWG* that will make the discussion under consideration clear, correct, consistent, or technically appropriate. Examples:
    - In Table 4-23, fifth row, change "95% UCL or maximum exposure" to "maximum reasonable exposure".
    - Fifth paragraph: explain why no further tissue sampling of bivalves was performed.
  - **Code:** Choose a code from the following list to categorize your comment:

Clarify	Clarify or expand text treatment. Includes adding specific text or data quoted in the comment.
Consis	(Apparent) inconsistency in data or assertions, compared to other portion(s) of the report; in **Comment to LWG**, list other discussion(s) to be reconciled with current one.
Edit	Simple text change (add, delete, correct, change wording) with no discussion required; e.g., "Second paragraph: Add clams to list of species sampled." Could also state specific guidance for revising an entire discussion; e.g.; "Update Tissue sampling discussion with latest clam tissue analysis results."
Issue	Issue that requires discussion to be resolved; list other relevant sections or discussions.

  - **Rationale:** Enter any rationale or background information relevant to the requested change.

Table 1: Comments on Specific Sections or Discussions

Initials	Subsection	Page #	Comment to LWG	Code	Rationale
JW	3.4.1.1	3-25	Somewhere in this section, need to add the following information: What is considered surface sediment (how deep)? How many samples were used to develop this map? Same questions for subsurface- what is the range of depths that we have for subsurface samples?	Edit	Section 2.1.2 has info on the dividing line between surface and subsurface (30 cm) so either add "(see Section 2.1.2)" or "(<30 cm)" to aid the reader, since 30 is much bigger than the surface layer being considered on other sites. The other info will help orient readers to the maps.
JW	3.4.2.2	3-28	Footnote 5- should the date be 2009 instead of 2004?	Edit	
JW	3.4.2.3	3-30	Identify whether the critical shear stresses mentioned here are those actually measured in Sedflume or whether they were adjusted in model calibration.	Clarify	In the model, erosion rate constants were adjusted in calibration: the measured Sedflume values were divided by 5 in the upper 30 cm of sediment and divided by 100 in the subsurface. Did this also affect model predictions for critical shear stress? EPA/USACE's comments on the HST model recommended doing away with those adjustments, so this section of the text may need to be revised to reflect the actual measured critical shear stresses. *This same type of comment applies to multiple aspects of the HST model: agency comments were submitted in July 2009 and it is not clear to me whether this draft of the RI reflects the changes that the agencies requested. The changes were substantial and would require recalibration and additional validation efforts, so the next draft of the RI needs to reflect those (see general comments on section 3).*
JW	3.4.3.3	3-35	Discuss the spatial scale on which the recalibration was done, and state the	Clarify	We need to understand whether the model is usable

			results of the calibration and validation quantitatively (more detail than just "significant improvement over Phase 1 results"). A map from the HST report showing model agreement with bathymetry on a grid cell basis may be useful.		only on a riverwide basis or a more localized scale. The validation process found that 71% of model grid cells were within the target accuracy according to the May 09 modeling report, so in the RI and FS, apply the model in those areas only(i.e. not in the other 29% of grid cells). Do not rely on the model for sediment transport predictions in small subareas of the harbor unless you've ascertained that the model is valid in that area.
JW	3.4.3.3.1	3-36	30 cm of erosion may not be "minimal" with respect to contamination	Issue	Is there variation in concentrations between the top 5-10 cm vs the 20-30 cm depth range? If so, 30 cm of erosion could be sufficient to release high levels of buried contaminants and should not be referred to as "minimal"
JW	6.1.1.1	6-5	See section 10.1.4.1 comments		
JW	6.2.1.1.1	6-50	What is the proposed method for predicting fate and transport of TPH?	Clarify	Text states that TPH cannot be accurately characterized by a single K_{oc} because it is a mixture of compounds. If we believe TPH is a COC we need some method of at least qualitatively predicting its fate and transport in the harbor.
JW	6.2.1.1.3	6-54	description of dehalogenation should include removal of halogens other than Cl.	Edit	For example, PBDEs can be debrominated which alters their toxicity
JW	6.2.1.2.2	6-60	Last paragraph of this section, suggest revising as follows: "As illustrated in Map 3.5-3 and noted previously, the EFDC modeled 100-yr flood prediction of bed elevation change suggests that the spatial pattern of erosion and deposition *predicted by the model for the extreme event* is generally consistent with *that measured during typical hydrologic*	Edit	Switches the order to clarify that we're assessing the model in terms of the data and not the other way around. Also clarifies that we do not have measured data on the extreme event.

			years. However, the magnitude of bed changes during the extreme event is *predicted to be* dramatically greater, with both erosion and deposition predicted to occur to several meters in some areas (Map 3.4-7)."		
JW	6.2.1.2.3	6-61	2nd to last bullet point: should specify what is meant by "permanent"	Clarify	Does "permanent" here mean just one season (i.e. until the next winter high flow), or until the next 100-year flood or something in between?
JW	6.2.2.2	6-64	Footnote 41 seems to refer you back to the same section where you were just reading. Is this an error? Perhaps sections were shifted around?	Edit	
JW	6.2.3	6-66	1st full paragraph: use of the term "organic" is confusing here—Reword?	Edit	it seems that the whole fish should be considered organic, not just its lipids, and that carbon in porewater isn't necessarily organic.
JW	10.1.1.2	10-5	Mismatched parentheses in the beginning of the last paragraph.	Edit	
JW	10.1.1.2	10-6	1st full paragraph: Clarify whether erosion that is being described here as <30 cm is referring to gross erosion or net erosion.	Clarify	Since the bathymetry is only giving us net bed change (separated by intervals of ~8 months- 1 year) it can't tell us about what happens during and immediately following a high flow event—if bathy data shows a difference of 20 cm, that may be 50 cm of scour and 30 cm of backfill afterward (i.e. relatively deep sediments are getting resuspended, and the associated contamination is reexposed to the receptors). Also, need to clarify whether this is 30 cm that gets eroded and then gets filled back in with new sediment, or if it remains uncovered so that in the next high flow season the next 30 cm gets resuspended- since we have multiple bathymetry records we should be able to clarify this.

JW	10.1.2	10-6	Panels should probably be renamed as Maps for consistency	Edit	If not, then change the name of the Maps folder on the PHCP portal site so that readers can find the Panels.
JW	10.1.4.1	10-14	The approach for estimating loads is limited in that it considers only typical water years. Consider looking at high flow conditions instead.	Issue	At many sites, the majority of sediment transport occurs under high flow conditions, even though these conditions don't occur very often, and thus contaminant transport also occurs primarily under high flow conditions.* Also, will the meaning of "typical" change with climate change? We might expect more frequent floods in the future. For both these reasons, looking at flood conditions rather than typical conditions will probably give a better sense of contaminant transport. *Section 6.1.1.1 of this RI indicates that more than half the PCB loading occurred at low flow. This is different from many other sites and hard to justify conceptually since the volume of water is described as roughly evenly split between high and low flow (52% to 48%), and the *mass* of PCBs on suspended solids wouldn't be expected to decrease at high flow, even if the *concentration* is a bit diluted. Section 10.2.1.3 (p. 10-38) says that PCB concentrations at high flow were lower than at low flow, but what were the masses? You wouldn't be too surprised to see a lower chemical concentration at high flow, both on a mass basis because of additional scour of larger (cleaner) sediment, and on a volume basis because of additional flow, but if the mass of chemical at high flow is significantly lower than at low flow, some investigation is warranted. It may be that the modeled high and low flow rates used in these calculations were incorrect—underestimating high flows or overestimating low

					flows would explain the discrepancy. It's hard to say whether this is the case based on the data in the HST model reports—calibration velocities are shown there only for a single sampling event in May 2003 and validation is shown for two events in 2004 (Appendices H and J to the 2006 modeling report), but I wasn't able to tell whether the observations took place during high or low flow conditions. Another explanation for the unexpected result may be E2.2.1 p. E-4: "the November 2006 stormwater-influenced low-flow sampling event was considered a low-flow event for this loading analysis." This event may not be representative of low flow because there was extremely high precipitation and flow exceeded 100,000 cfs by the end of the event even though at the beginning of the event it was low flow (23,000 cfs) (see figure 5.3-4). I would recommend looking at the measured concentrations from the November 2006 sampling event to see how they compare to other "low flow" sampling results.(I tried looking at the data myself a little bit but it's a pain to look at -- some water data in pg/L, some in ug/L, and so on-- so probably the best would be to ask Integral or whichever subcontractor wrote that section to evaluate the concentrations they used in their "subaveraging" calculations (see p. 6-7 of the RI) and determine whether they are consistent with other low flow concentrations.
JW	10.1.4.2.2	10-22	Last sentence of this section should clarify which transport mechanisms are within the scope of the FS fate and transport modeling effort	Clarify	FS fate and transport modeling will not address bioturbation or anthropogenic forces such as prop wash, correct? By mentioning these among the mixing mechanisms and then referring to the FS f&t model, the draft implies that the model *will* incorporate these mechanisms, but I don't think that's the case.

JW	10.2.1	10-33	2nd full paragraph: please clarify what is meant by "areas where concentrations are less than upriver background levels"	Clarify/ edit	Concentrations in what media? The sentence before this is talking about shellfish consumption, and the sentence after is about direct exposure to sediment, so it's not clear what concentrations you're comparing to upriver.
JW	10.2.1.3	10-38	See comments on section 10.1.4.1		
JW	10.2.1.3	10-39	Add a quantitative discussion of sediment resuspension	Clarify	Sediment resuspension can't be ignored as a relevant fate and transport process. It belongs in the CSM—flux calculations show more contamination exiting the harbor than entering, and some of this is likely from resuspension of contaminated sediment. Once the HST and F&T models are ready, this info should be added to the next draft of the RI.

Completing Table 2

This table is for recording general comments that concern entire sections or multiple RI elements (sections, figures, maps, or tables). Please state as specifically as you can what your concern is and what needs to occur to resolve it.

Table 2: General Comments

Initials	Section	Comment
JW	11	Section 11 repeats everything that's been said, so it could all be cut except for 11.11. Section 10 already serves to summarize all the preceding sections into a conceptual site model, and the executive summary already is a shorter, more reader-friendly summary of the whole document, so 11 seems like overkill.
JW	8 and 9	Since the risk assessments are included as appendices, these sections can leave out the descriptions of methods and skip straight to the conclusions.
JW	3	Agency comments on the HST model (provided July 2009) recommended changes that may yield significantly different results and will likely require recalibration as well as re-running the validation and the sensitivity analysis. It's not quite clear whether these changes are reflected in this draft of the RI but given the timing, I assume they are not. The next draft of the RI should incorporate the agencies' recommended changes from July 2009. If there will NOT be a standalone revised HST modeling report, then the details of that recalibration, validation and sensitivity analysis need to be reported in the RI (either in the main text or in an appendix).